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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,340	03/29/2001	Yoriaki Matsuzaki	018793-243	8537

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

6

DATE MAILED: 06/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,340

Applicant(s)

MATSUZAKI ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ *Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In the present application, the abstract contains two paragraphs, not one.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites “(in which each of R₄ to R₆ independently, represents....aryl group)”. The scope of the claim is confusing because it is not clear why the limitation which is necessary to define the invention is in parentheses. The parentheses appear to make the limitation conditional or optional. It is suggested that the parentheses be removed. It is suggested, for instance, that the phrase is re-written as “wherein each of R₄ to R₆ independently, represents....aryl group”.

A similar suggestion is made to remove the parentheses in claims 2-6, 8-11, and 14.

Claim Rejections - 35 USC § 102

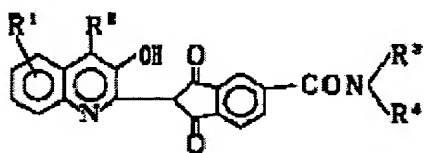
4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

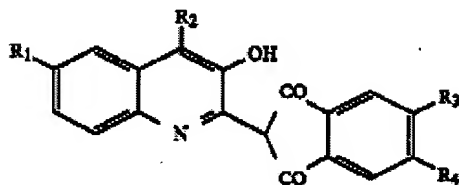
5. Claims 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 06009891 or Ohyama et al. (U.S. 5,359,075).

Pending translation, it is noted that JP 06009891 discloses quinophthalone compound of the formula:



where R¹ and R² are each C₁-C₂₀ alkyl group, halogen, or hydrogen and R³ and R⁴ are each C₁-C₂₀ alkyl group.

Alternatively, Ohyama et al. disclose quinophthalone compound of the formula:

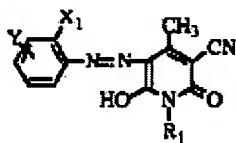


where R₁ is hydrogen or C₁-C₈ alkyl group, R₂ is hydrogen, R₃ is hydrogen, alkyl, halogen, or N-substituted amino carbonyl group, and R₄ is hydrogen (col.2, lines 1-27 and col.2, line 54-col.3, line 36).

In light of the above, it is clear that either JP 06009891 or Ohyama et al. anticipates the present claims.

6. Claims 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 08034933, JP 06059510, or Leoffler (U.S. 4,514,226).

Pending translation, and using a machine translation that is included in this office action, it is noted that JP 08034933 discloses pyridone azo compound of the formula:

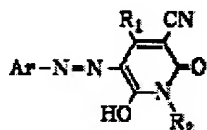


where R₁ is C₁-C₈ substituted or unsubstituted alkyl group, X₁ is hydrogen or halogen, and Y is hydrogen, halogen, or C₁-C₄ alkoxy carbonyl (claim 1 and paragraphs 5-6).

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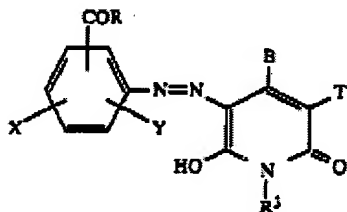
Particular attention is drawn to Table 1, No. 10, which discloses pyridone azo compound of the above formula where R_1 is alkyl, Y is COX_1 where X_1 is substituted alkoxy group, and X is hydrogen or No. 8, which discloses pyridone azo compound of the above formula where R_1 is alkyl, Y is $CONHCH(C_2H_5)(C_4H_9)$, and X is hydrogen.

Alternatively, pending translation, it is noted that JP 06059510 discloses pyridone azo compound of the formula:



where Ar is a substituted phenyl wherein the substituents include $COOCH_3$ or substituent of the formula $CONR_{16}R_{17}$ as presently claimed where R_{16} is hydrogen and R_{17} is substituted alkyl group, R_2 is substituted or unsubstituted alkyl group or aryl group, and R_1 is hydrogen or alkyl group (abstract and Table 1 on pages 7-8).

Alternatively, Leoffler discloses pyridone azo compound of the formula:



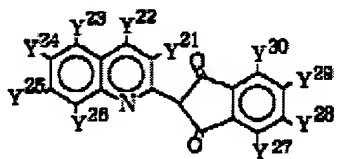
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where B is C₁-C₃ alkyl, T is cyano, R³ is C₁-C¹⁸ alkyl group or aralkyl, R is OR¹ or NR¹R² where R¹ and R² are each C₁-C₁₈ alkyl group or C₄-C₉ alkoxyalkyl group, and X and Y are each hydrogen or halogen (col.1, lines 4-39).

In light of the above, it is clear that JP 08034933, JP 06059510, or Leoffler anticipates the present claims.

7. Claims 1-5 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 11131000.

Pending translation, and using a partial machine translation of the reference which is included in this office action, it is noted that JP 11131000 disclose ink jet ink comprising water, resin, and quinophthalone compound of the formula:



where Y²¹ is hydroxyl group, Y²³, Y²⁵, Y²², Y³⁰, Y²⁷, and Y²⁵ are each hydrogen, and Y²⁴, Y²⁶, and Y²⁹ are each hydrogen, C₄-C₁₆ alkyl group, or alkylaminocarbonyl group (abstract and paragraphs 17-20).

In light of the above, it is clear that JP 11131000 anticipates the present claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

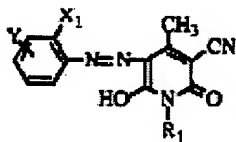
10. Claims 1, 6-8, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsumi et al. (U.S. 6,031,019) or Komatsu et al. (U.S. 6,379,443) either of which in view of JP 08034933.

Tsutsumi et al. disclose a water-based ink jet ink wherein the ink comprises polymer particles colored with oil-soluble dye. There is also disclosed a method for making the colored particles wherein the polymer, dye, and solvent are added to water and then emulsified. The colored polymer particles are dispersed in the water medium (col.1, lines 14-24, col.3, line 65- col.4, line 17, col.4, lines 21 and 49-51, col.6, lines 54-56, col.8, lines 11-12, col.11, lines 56-60, and col.12, lines 61-67).

Alternatively, Komatsu et al. disclose water-based ink jet ink comprising colored polymer comprising polymer and oil-soluble dye in the form of an emulsion wherein the colored polymer is dispersed in the water medium (col.7, lines 43-61, col.8, lines 32-35, and example A5).

The difference between Tsutsumi et al. or Komatsu et al. and the present claimed invention is the requirement in the claims of specific type of dye.

Pending translation, and using a machine translation of the reference that is included in this office action, it is noted that JP 08034933 discloses pyridone azo compound of the formula:



where R_1 is C_1 - C_8 substituted or unsubstituted alkyl group, X_1 is hydrogen or halogen, and Y is hydrogen, halogen, or C_1 - C_4 alkoxycarbonyl (claim 1 and paragraphs 5-6).

Particular attention is drawn to Table 1, No. 10, which discloses pyridone azo compound of the above formula where R_1 is alkyl, Y is COX_1 where X_1 is substituted alkoxy group, and X is hydrogen or No. 8, which discloses pyridone azo compound of the above formula where R_1 is alkyl, Y is $CONHCH(C_2H_5)(C_4H_9)$, and X is hydrogen.

The motivation for using such dye, which is suitable for use in ink jet ink, is that it has good colorfastness to light (paragraphs 3 and 17).

In light of the motivation for using specific type of dye disclosed by JP 08034933 as described above, it therefore would have been obvious to one of ordinary skill in the art to use such dye in the ink jet ink of either Tsutsumi et al. or Komatsu et al. in order to produce an ink with good colorfastness to light, and thereby arrive at the claimed invention.

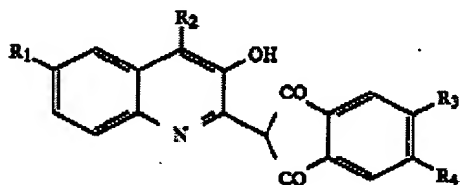
11. Claims 1-5 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsutsumi et al. (U.S. 6,031,019) or Komatsu et al. (U.S. 6,379,443) either of which in view of Ohyama et al. (U.S. 5,359,075).

Tsutsumi et al. disclose a water-based ink jet ink wherein the ink comprises polymer particles colored with oil-soluble dye. There is also disclosed a method for making the colored particles wherein the polymer, dye, and solvent are added to water and then emulsified. The colored polymer are dispersed in the water medium (col.1, lines 14-24, col.3, line 65-col.4, line 17, col.4, lines 21 and 49-51, col.6, lines 54-56, col.8, lines 11-12, col.11, lines 56-60, and col.12, lines 61-67).

Alternatively, Komatsu et al. disclose water-based ink jet ink comprising colored polymer comprising polymer and oil-soluble dye in the form of an emulsion wherein the colored polymer is dispersed in the water medium (col.7, lines 43-61, col.8, lines 32-35, and example A5).

The difference between Tsutsumi et al. or Komatsu et al. and the present claimed invention is the requirement in the claims of specific type of dye.

Ohyama et al. disclose quinophthalone compound of the formula:



where R₁ is hydrogen or C₁-C₈ alkyl group, R₂ is hydrogen, R₃ is hydrogen, alkyl, halogen, or N-substituted amino carbonyl group, and R₄ is hydrogen (col.2, lines 1-27 and col.2, line 54-col.3, line 36).

The motivation for using such dye is that it is stable to heat, light, humidity, and chemicals and has an excellent shelf-stability (col.5, line 66-col.6, line 3).

In light of the motivation for using specific type of dye disclosed by Ohyama et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use such dye in the ink jet ink of either Tsutsumi et al. or Komatsu et al. in order to produce a storage

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stable ink with good resistance to heat, light, humidity, and chemicals, and thereby arrive at the claimed invention.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

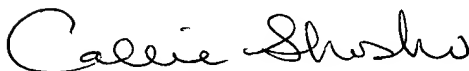
Murata et al. (U.S. 4,820,685) disclose quinophthalone compound.

JP 06184481 and Schwarz et al. (U.S. 5,413,630) each disclose pyridone azo compound.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie Shosho
June 5, 2002

Callie E. Shosho
Examiner
Art Unit 1714